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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,334	08/22/2003	Gary R. Holt	10006.001410	8286
31894 7590 10/19/2007 OKAMOTO & BENEDICTO, LLP P.O. BOX 641330 SAN JOSE, CA 95164			EXAMINER YENKE, BRIAN P	
			ART UNIT 2622	PAPER NUMBER
			MAIL DATE 10/19/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/646,334

Applicant(s)

HOLT ET AL.

Examiner

BRIAN P. YENKE

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Response (08 Aug 07).
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 2 and 4-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2 and 4-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Arguments***

1. Applicant's arguments filed 08/08/07 have been fully considered but they are not persuasive.

***Applicant's Argument's***

a) Applicant states that the conventional methods for progressive to interlaced conversion did not in any way contemplate using objects for the conversion procedure. Applicant states that DeHann does not teach using estimated motion of the object between progressive frames in creating an intermediate frame.

b) Applicant states that Doricott does not teach using estimated motion of the objects between progressive frames in creating an intermediate frame.

***Examiner's Response***

a) The examiner agrees. As stated below in the rejection, DeHann discloses the concept of using motion estimated between interlaced frames in creating an intermediate/interpolated frame. Although DeHann does not disclose progressive to interlace conversion, DeHann does disclose that an image may be modified (i.e. interlaced to interlaced) via object motion estimation. The concept of converting a signal using objection motion estimation has been evidenced, wherein the use of such could be applied to any signal conversion (P-I, I-I, I-P etc...) with predictable results.

b) The examiner agrees. Dorricott was incorporated to evidence the reception of anyone of a multitude of video signals (including interlaced and progressive) wherein the system may convert the signals into any one of a desired outputs (including interlaced and progressive as shown (Figs 66-70)).

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeHann et al, US 6,937,655 in view of Dorricott et al., US 5,329,309 and Horikawa, US 6,067,120.

In considering claims 2-5 and 10-12,

DeHann discloses a system, which performs segmentation and object motion estimation between fields/frames of an incoming video sequence wherein the sequence is interlaced and the output is interlaced. DeHann discloses that an intermediate frame/interpolated frame is generated based upon the subsampling of the incoming fields/frames (Figs 1-3 and description).

However, DeHann does not explicitly recite receiving a progressive signal. The reception of a progressive signal, which is later, converted into interlaced, or no conversion based of course on the display/user requirements is conventional practice in the art. The examiner evidences such practice by incorporating Dorricott which discloses the concept of receiving anyone of a multitude of video signals (including interlaced and progressive) wherein the system may convert the signals into any one of a desired outputs (including interlaced and progressive as shown (Figs 66-70)).

Therefore it would have been obvious to one of ordinary skill in the art to modify DeHann which discloses the object estimation/segmentation of incoming interlaced signal, to also estimation/segment progressive sources if received, in order to provide the user the conventional capability of receiving a variety of inputs and providing the user the ability to convert the signal as desired.

However, neither DeHann nor Dorricott explicitly recite how the interlaced signal is produced. (i.e. the claimed extracting the first/second alternating field and wherein they comprise the odd and even fields of the interlaced video sequence) It is noted that DeHann concerns motion object segmentation/estimation with an interlaced signal to produce an interlace signal, and Dorricott has been

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evidenced as receiving a progressive signal (i.e. 30 frames per second) and convert such signal into an interlaced signal (i.e. at 60 fields per second).

The examiner incorporates Horikawa, US 6,067,120 (Figs 4a/b) which discloses that a single progressive frame creates an intermediate frame (i.e. average frame) which is used to create a signal at twice the frequency (i.e. interlaced).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize in DeHann/Dorricott which disclose a system which converts a progressive signal to interlace using motion object estimation/detection, by using the intermediate frame as the second field since the conversion requires 2 fields for every frame.

In considering claims 6-9,

DeHann discloses segmenting the incoming images based upon the objects included in the fields/frames, wherein the areas that are exposed or filled in are based upon the presence of the objects in one or more of the frames/fields.

#### **Conclusion**

3. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Yenke whose telephone number is (571)272-7359. The examiner work schedule is Monday-Thursday, 0730-1830 hrs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Supervisor, David L. Ometz, can be reached at (571)272-7593.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:**

**(571)-273-8300**

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703)305-HELP.

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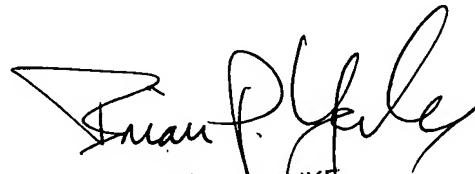
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PAIR (<http://pair.uspto.gov>) provides customers direct secure access to their own patent application status information, as well as to general patent information publicly available. EFS allows customers to electronically file patent application documents securely via the Internet. EFS is a system for submitting new utility patent applications and pre-grant publication submissions in electronic publication-ready form. EFS includes software to help customers prepare submissions in extensible Markup Language (XML) format and to assemble the various parts of the application as an electronic submission package. EFS also allows the submission of Computer Readable Format (CRF) sequence listings for pending biotechnology patent applications, which were filed in paper form.



B.P.Y  
15 Oct 07

  
BRIAN P. YENKE  
PRIMARY EXAMINER